

## EXHIBIT A

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Project No. 6122/1295Xf61

Date Started

Object: Preparation of enzyme degraded Guar and Locust Bean Gum.

Guar Gum

2 lb of Guar Gum

Solids = 20%

Sodium Benzoate = 0.1% per solution

ph = 4, T = 70°C

Graminase enzyme

Locust Bean Gum

2 lb of Locust Bean Gum

Solids = 20%

Sodium Benzoate = 0.1% per solution

ph = 4, T = 70°C

Graminase enzyme

Procedure: 0.1% Sodium Benzoate dissolved in deion. H<sub>2</sub>O, ph = 4, temp 70°C and placed in constant temp. bath. 10 ml of 1% Graminase added to 1 lb of Guar Gum and added 2 lb of Locust Bean Gum. 10 ml Graminase added to 1 lb of Locust Bean Gum and rect. H<sub>2</sub>O 20-25% L.S.

SAMPLE	Amount of Enzyme	Rx Time (hrs)	% PS	SAMPLE	Amount of Enzyme	Rx Time (hrs)	% PS
6231/134-1 (Guar Gum)	10 ml / 1 lb Gum	0/14	12% PS	6231/134-2 (Locust Bean Gum)	10 ml / 1 lb Gum	1 hr	25% PS
	added 7 ml 1% of enzyme	0/45	16% PS				Used 20 ml of 1% soln. + deion. water 5.1 ml solution - ph = 2
	added 5 ml / 1 lb gum	0/14	17% PS				38% PS after 8 D.

OBSERVATION:

These larger quantities were prepared to examine the functional properties of these materials in food systems.

WORK OF:

Law Guh

M. B. B. Signature

DATE:

WITNESS THIS DOCUMENT AND UNDERSTAND ITS CONTENTS

After witnessing, corrections or changes may never be made in the grid area, but may be noted at any time in this margin.

Project No.

631.2/1412+EE

Date Started

Object

Preparation of enzyme degraded Amarant.  
(big batch)

Materials:

2 1/2 lb of Amarant gum  
0.1% Sodium Benzate  
pH > 5  
58°CCellulast enzyme (about 25 ml / 1 lb gum)  
pH > 5  
(6231:137-1)300 g of Amarant gum (new batch)  
0.1% Sodium Benzate  
Solids > 20%  
pH > 5  
58°C

Cellulast enzyme (about 20 ml / 1 lb of gum)

Procedure:

Sample	Amount of enzyme used	Rx Time (hrs)	% RS
6231:137			
6231:137-1	25 ml of Cellulast enzyme / 1 lb of gum	20 hrs	22% degraded by HCl (3%)
6231:137-2	20 ml of Cellulast enzyme / 1 lb of gum	20 hrs	23% degraded by HCl (3%)

Observation: The big batch of Amarant 6231:137-1 will be submitted to Food Lab (along with gum and low-batch gum) to examine the functional properties of these products (also evaluated in color and findings).

Sana/ank

M. Shady